



NCTA

DOCKET FILE COPY ORIGINAL

DOCKET FILE COPY ORIGINAL

RECEIVED

JAN 8^{DEM} 1997

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY

January 7, 1997

William F. Caton, Acting Secretary
Federal Communications Commission
1919 M Street, N.W.- Rm. 222
Washington, D.C. 20554

Re: CC Docket No. 96-45

Dear Mr. Caton:

Enclosed is a copy of the National Cable Television Association's (NCTA) response to some of the questions posed by the Federal Communications Commission's (Commission) December 12, 1996, Public Notice in CC Docket 96-45. The responses were prepared by Economics and Technology, Inc. (ETI) on behalf of NCTA.

We look forward to participating in the proxy cost model workshops, and working with the Federal-State Joint Board and the Commission to develop a workable proxy cost model consistent with the November 8, 1996, Recommended Decision.

If you have any questions concerning this matter, please contact the undersigned.

Sincerely,

Richard Cimerman
Teresa Pitts
Directors, State Telecommunications Policy

No. of Copies rec'd
List ABCDE

024

2) Using the current version of your model, provide study area results for Southwestern Bell Texas. For this study area please provide:

b. Model results reported on an ARMIS basis: all expenses and plant in service rows that are contained in ARMIS report 43-03. If any of the rows can not be shown separately, provide a list of rows that have been combined and the algorithm used to combine the rows.

Response: To the extent that part b of this question seeks to compare the cost results generated by a cost proxy model with a carrier's expense and plant in service levels as reported in ARMIS Form 43-03, it is important to note that this type of comparison is completely invalid. The expense and asset levels reported in ARMIS are embedded (i.e., historical) as opposed to forward-looking and therefore reflect the inefficiencies and substantial excess capacity of the incumbent LECs' existing networks. As such, these costs should not be compared to the results of a properly designed cost proxy model which should be forward-looking and should reflect least cost technologies necessary for the provision of universal service-type services. Furthermore, annual ARMIS expense data reflect a LEC's results from operations for a single year and thus would not be comparable to the cost results generated by a scorched-node proxy model which builds out the entire network all at once. In other words, it would be necessary to look at the change in total plant in service and the change in total lines as represented in ARMIS data over a succession of years in order to force a comparability between ARMIS reports and the results of a cost proxy model. However, even this approach would not correct for the historical inefficiencies embedded in LEC ARMIS data nor do ARMIS data reflect the use of forward-looking technologies.

Furthermore, the record in the SBC/Pacific Telesis merger case before the California Public Utilities Commission provides further evidence of persistent inefficiencies at Southwestern Bell in particular, and thus the inherent drawbacks of focusing on SWB's costs. By its own admission, SBC's operations are far less efficient than those of Pacific Telesis. In testimony filed with the California PUC, SBC's senior management stated that "a large percentage of any potential cost savings which can be generated as a result of this merger will occur outside of Pacific Bell and California. ...SBC's local exchange operations outside California, however, can benefit significantly from the cost saving skills and operating efficiencies which PTG has implemented."¹

6. What sources are available to verify that a network derived by a model is capable of delivering telecommunications services consistent with the standard of service adopted in Joint Board's Recommended Decision?

¹ Rebuttal Testimony of James S. Kahan, Senior Vice President for Corporate Development of SBC, Before the Public Utilities Commission of the State of California, Application No. 96-04-038, *In the Matter of the Joint Application of Pacific Telesis Group ("Telesis") and SBC Communications Inc. ("SBC") for SBC to Control Pacific Bell (u 1001C), Which Will Occur Indirectly as a Result of Telesis' Merger with a Wholly Owned Subsidiary of SBC, SBC Communications (NV) Inc., October 15, 1996, at 20-21.*

Response: The question of whether the modeled network is “capable” of delivering telecommunications services consistent with the Joint Board’s Recommended Decision must be examined from two perspectives. First, the modeled network must be adequate or *sufficient* to deliver the services outlined by the Joint Board as falling within the scope of universal service. However, the network *should not* be modeled so as to provide services that fall outside the scope of universal service, that is competitive services with require excess capacity and network functionality beyond that required for a strictly universal service network. The networks modeled by the BCM2 and the Hatfield Model appear to be “over-provisioned” in that their design parameters produce a network that is capable of delivering the full range of competitive services in addition to strictly universal service-type services. There are two problems with this situation. First, the costs of providing competitive services are attributed inappropriately to the cost of maintaining universal service. Second, the models do not assess the level of economies that are associated with the provision of all services over a single integrated network and fail to apply those economies as an offset to the stand-alone cost of providing universal service.

7. Your model assumes vendors typically offer a discount off their list prices for switches and digital loop carrier equipment. Purchasers, however, may be prohibited from disclosing the size of such discounts. Given the inability to provide such information, what alternatives are available to acquire such information?

Response: The use of accurate equipment price inputs in a cost proxy model and the development of an equitable solution to the universal service funding debate is far more important than any claims which vendors or purchasers make as to the sensitivity of price input data. The Joint Board should therefore require that ILECs provide accurate discounted equipment cost information for use in whichever cost proxy model is selected. The Joint Board may decide to require this data under an appropriate protective agreement that does not limit its use for purposes of the proceeding but that does operate to prevent general public disclosure.

8. Describe the specific manner in which network design parameters (cable gauge, capacitance, loading, resistance, attenuation, cable fill, and concentrator or repeater placement) are used in the development of the models.

Response: The model sponsors have the responsibility of demonstrating that all of the above network design parameters have been properly reflected in their respective cost proxy models. However, these parameters may differ between a network that has been modeled for the provision of all services, such as that modeled by the BCM2 and the Hatfield Model, and a network that would be adequate for the provision of only those services falling within the scope of universal service. Again, as mentioned above in the response to question #6, both the Hatfield Model and the BCM2 model a network that is capable of providing the full range of telecommunications services and in so doing they attribute costs that are achieved through the provision of competitive services to the realm of universal service. Moreover, neither model assesses the economies of scale and scope that the ILECs realize through the provision of competitive and non-competitive services over a single network and then assigns those

economies as an offset to the cost of universal service.

10. The Hatfield Model and BCM2 models differ with regard to the sharing of structure investments, the mix of aerial, underground and buried cable, and the relationship between the cost of installation and the terrain. For example, the Hatfield Model shares structure costs among three utilities, while the BCM2 model assigns 100% of the cost of structures by 20% when encountering difficult terrain rather than using terrain specific cost characteristics, while the BCM2 uses terrain specific cost characteristics. The BCM2, however, aggregates the terrain specific costs by activities, such as trenching in hard rock or restoring asphalt. Please provide documentation that supports the assumptions used in the models. Alternatively, please provide documentation that refutes these assumptions.

Response: Comments are being sought on several distinct aspects of the modelling of outside plant costs: (a) the sharing of structure investments among utilities; (b) the mixture of aerial, underground, and buried cable; and (c) the relationship between installation cost and the terrain.

a. It is entirely reasonable, in a forward-looking context, to assume that structure costs will be shared among utilities, and thus the FCC should reject the implausible assumption that 100% of structure costs will be borne solely by the telephone company. On the other hand, it is not readily evident, as proposed by the Hatfield Model, that other utilities will bear a full two-thirds of the structure costs. The NCTA recommends that the FCC require ILECs to submit detailed descriptions of their current and potential practices regarding the sharing of structure costs with other utilities so that the FCC can ascribe a reasonable percentage of structure costs to other utilities in a cost proxy model.

b. A cost proxy model should distinguish between underground cable and buried cable because the costs of these two categories differ. As is discussed in its October Report, ETI in conducting its cross-comparison of the Hatfield Model and the BCM2, identified but did not yet explore the magnitude of the impact of the fact that the former model includes three categories of outside plant and the latter includes only two categories (October Report at 86). It would be useful for the two model sponsors to shed further light on the magnitude of the disparity between the costs modeled by the Hatfield Model and the BCM2 that specifically results from the fact that one model includes three categories and the other model includes two categories of outside plant. As related matters, the two model Sponsors should be encouraged to provide justification for the assumptions as to the percentages assumed for the six density zones (see, e.g., page 22 of the document entitled "Benchmark Cost Model 2 Methodology").

c. As is described in more detail in the BCMS's Sponsors' ex parte filing of August 22, 1996, at 12-15, the structure cost per foot is calculated "outside the BCM2" and reflects an analysis of twelve possible activities associated with placing cable for the six different density zones, the three categories of plant (copper distribution, copper feeder, and fiber); and three categories of terrain characteristics (normal, rock soft, and rock hard). A separate multiplier is also applied when the CBG's depth to the water table is less than a user-specified water table depth. Among the critical components of the methodology incorporated in the BCM2 include the costs per foot that are assumed for each of the twelve activities and the estimates of the

percentage of the structure cost that each activity represents. The complexity of the modeling reflected in the BCM2 would, initially, suggest the potential for greater accuracy than the more simple approach used in the Hatfield Model, however, whether the BCM2 yields more accurate results depends critically upon the validity of the underlying assumptions.

11. The models, at least in part, rely on Bellcore's LERG, which may not include all wire centers. Do the models reflect all wire center locations? Should the models reflect all wire center location? Do the models include host-configurations when it is efficient to do so?

Response: The current versions of the cost proxy models overstate switching costs insofar as they model existing switch sizes for each wire center as opposed to the switch or Remote Serving Unit (RSU) that could be technically feasible and economically justified on a forward-looking basis. In other words, to be truly forward-looking and least cost, the switching modules should reflect the current trend toward switch consolidation and the increased use of hose/remote switching architectures. This could be accomplished through an RSU placement rule which identifies as RSUs all end offices under a threshold switch size that are within a reasonable distance from a suitable hose office.

To the extent that the LERG does not identify all wire centers, the models likely overstate loop lengths and associated cost by failing to recognize the significantly reduced loop distances that are made possible through deployment of RSUs. Moreover, where the LERG reflects the results of wire center consolidations — i.e., the integration of several previous wire center areas into a single exchange with only one host and one or more RSUs — to the extent that the models assume “home run” loop distances back to the (post-consolidation) host, they may be reflecting loop distances that never existed at all. The exclusion of RSUs would create a systematic upward bias in the model's assessment of loop distances and costs.

12. Do the models accurately estimate the total demand for lines in a particular geographic area, such as a Census block group, wire center, or service area? What types of lines (e.g. residential, single-line business, multiline business, and special access) are, so should be, included in a model's estimated demand for lines? Can the model estimate the incremental cost of adding households to the network?

Response: Both the Hatfield Model and the BCM2 “deploy” a theoretical network that is sized to service virtually all lines in a CBG, including primary and secondary residential access lines as well as business lines and special access lines. (In addition to these categories the Hatfield Model also includes an estimate for public access lines per CBG). The fill factors in these two models reflect the fact that the network being modeled serves both the subsidized service (which is characterized by a relatively stable demand) and non-subsidized services (which are characterized by relatively stable demand, and thus a corresponding need for a relatively lower fill factor). Thus the fill factor that is incorporated in these two models is lower than what would be necessary to serve only the subsidized services.

The BCM2 and the Hatfield Model do not fully reflect the economies of scale enjoyed by an ILEC. The appropriate method for recognizing the economies of scale is (1) to compute

separately (a) the stand-alone cost of the services being subsidized (primary residence and single-lines business (and (b) the stand-alone cost with the cost of a combined network; and (3) to flow back to all lines a proportionate share of the savings (see pages 105-110 of ETI's August Report).

If this methodology is not adopted, then any cost proxy model adopted by the FCC should definitely include *all* lines (the subsidized lines and the non-subsidized lines) in order to at least partially reflect the economies of scale and scope that the ILEC enjoys through the provision of all services over a single integrated network..

13. All of the models appear to base repair and maintenance and retail costs on historical costs. In some cases this is done based on a historical relationship between investment and expenses as reported in ARMIS; in other cases they are based on per line amounts. For these categories of expense, to what extent are these historical expenses a reasonable approximation of forward looking expenses? How are gains in productivity due to technological advances and increased competitive pressure captured by the model's estimates of repair and maintenance and retail costs?

Response: The use of cost factors which are derived from historical relationships between investment and expenses as reported in ARMIS is inappropriate for all expense categories, not just repair and maintenance, and is a fundamental flaw of the BCM2. The use of embedded cost factors is fundamentally at odds with the TSLRIC concept, and has the effect of transforming what is facially offered as an "incremental cost" study into an historical embedded cost analysis.

14. Do the retail costs - the cost of bill production, billing inquiries, sales and advertising - developed for your model reflect the costs associated with the services included in the revenue benchmark included in the Recommended Decision? What share of your retail costs are associated with bill production and billing inquiries? How are retail costs developed to capture the costs of services included in the revenue benchmark while excluding retail costs associated with services not included in the benchmark, such as intraLATA toll.

Response: As is also discussed in the response to question 16, below, *assuming that a revenue benchmark is adopted*, retail costs that are included in a cost proxy model should include those costs legitimately associated with the services that are included in the revenue benchmark. Expenses such as corporate and image advertising, lobbying expenses, and external relations should be excluded.

15. How is depreciation expense treated in the current version of the model? In particular, describe in detail the set of plant categories considered and the asset lives or economic depreciation rates associated with each. Justify, if possible, the default choices made in the model. Describe the extent to which the model has sufficient built-in flexibility to accurately reflect differing decisions by the FCC and state commissions regarding depreciation rates? Are there enough distinct categories of plant to accurately model forward looking depreciation expense? For example, should asset lives for conduit necessarily be the same as cable lives?

Response: Depreciation expenses account for a substantial percentage of the LEC's plant-related expenses, and thus, the lives of the various plant accounts that are explicitly (as in the Hatfield Model) or implicitly (as in the BCM2) incorporated in a cost proxy model will directly affect the results of the universal service funding calculations. It is entirely inappropriate for depreciation expenses that are incorporated in a universal service cost proxy model to be used as a vehicle to cross-subsidize ILECs' pursuit of competitive services. As such, the depreciation lives for plant categories such as digital switches, distribution and feeder plant --- which comprise the vast majority of the LECs' expenses that are necessary for the provision of basic telephone service --- should be less than the historical depreciation expenses reflected in the ARMIS reports. Depreciation expenses during the last decade reflect a time period when local exchange carriers accelerated their depreciation of analog switches, for example, for diverse reasons, many of which are unrelated to the ongoing provision of the primary residential access line. Although local exchange carriers have sought to portray modernization plans as "business-as-usual," in fact the plans have typically caused premature retirement of telecommunications plant that is/was in all other respects adequate and efficient to satisfy the needs of primary residential access line subscribers. Indeed, ETI discovered through a comprehensive vintage analysis of the RBOCs' plant that the majority of RBOC Total Plant in Service consists of plant that has been added since January 1990.² The acceleration in the replacement of existing plant results in retirements in advance of the originally anticipated mortality curve. This, in turn, impacts depreciation expenses in several ways, including the creation of reserve deficiencies and a rationale for increases in the depreciation rates for the affected plant categories.

Clearly, the BCM2 cost factor must be "disaggregated" so that plant-specific depreciation lives can be adjusted by the user as can be done by a user of the Hatfield model. Moreover, depreciation lives must reflect the time period over which plant remains adequate for the provision of supported services.

16. The BCM2 includes 75% of \$133.39 per year or \$8.34 per month per line to reflect non-plant related expenses such as marketing and consumer operations. The adjustable 10% overhead figure in the Hatfield model is the only similar component. Should costs for customer or corporate operations be a fixed amount per line? If not, what should be the basis for allocating these costs? To what extent should basic local service be charged with marketing or customer operations expenses?

Response: Costs for customer or corporate operations should not be a fixed amount per line, but should be attributed to the specific services and business initiatives such costs are intended to benefit. Marketing expenses are incurred disproportionately with respect to competitive services onto core monopoly basic services. Use of a uniform per-line attribution or "allocation" of such costs has the effect of shifting costs incurred for the benefit of competitive services onto core monopoly basic services. Customer and corporate operations that cannot be directly and explicitly attributed to the services that are included in the revenue threshold should not be

² Selwyn, Lee L. and Patricia D. Kravtin, *Analysis of Incumbent LEC Embedded Investment: An Empirical Perspective on the "Gap" Between Historic Costs and Forward-Looking TSLRIC*, May 30, 1996, submitted in CC Docket 96-98.

included in the universal service cost proxy. The model sponsors should clearly and comprehensively document the proposed inclusion of any non-plant-related expenses so that other parties and the FCC can ensure that this category excludes expenses such as image advertising, expenses related to the support and promotion of competitive services, and expenses related to those services that are not included in the revenue threshold.³

³ As proposed by Time Warner in its initial comments addressing the Joint Board's Recommended Decision, submitted December 19, 1996, the calculation of the revenues for the revenue-based benchmark should include imputed switched access revenues for toll demand, however, one would not expect significant retail costs associated with the provision of switched access. See pages 19-20.